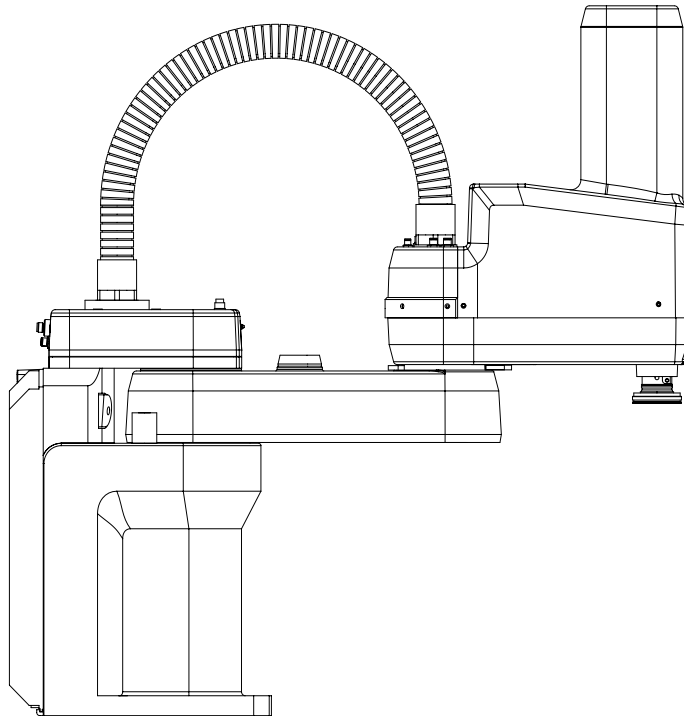


Adept Cobra i600/i800 Robot Quick Setup Guide



P/N: 03588-000, Rev D
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1.0 Introduction

This Quick Setup Guide steps you through the installation and start-up of your Adept Cobra i600/i800 robot.

The major steps are:

- **Preparation**, including Workcell Layout, Safety, and Unpacking
- **Hardware Installation**, including Mounting the Robot and System Cable Connections
- **Software Installation**, including .NET Framework and Adept ACE
- **System Start-Up**, including turning on and moving the robot

During the installation and start-up process, refer also to the **Adept Cobra i600/i800 Robot User's Guide**, shipped with each system, for complete information on all aspects of your robot system.

2.0 Workcell Layout

Figure 1 shows a simple workcell layout with a user-supplied safety barrier and E-Stops provided by the Front Panel and optional T2 pendant.

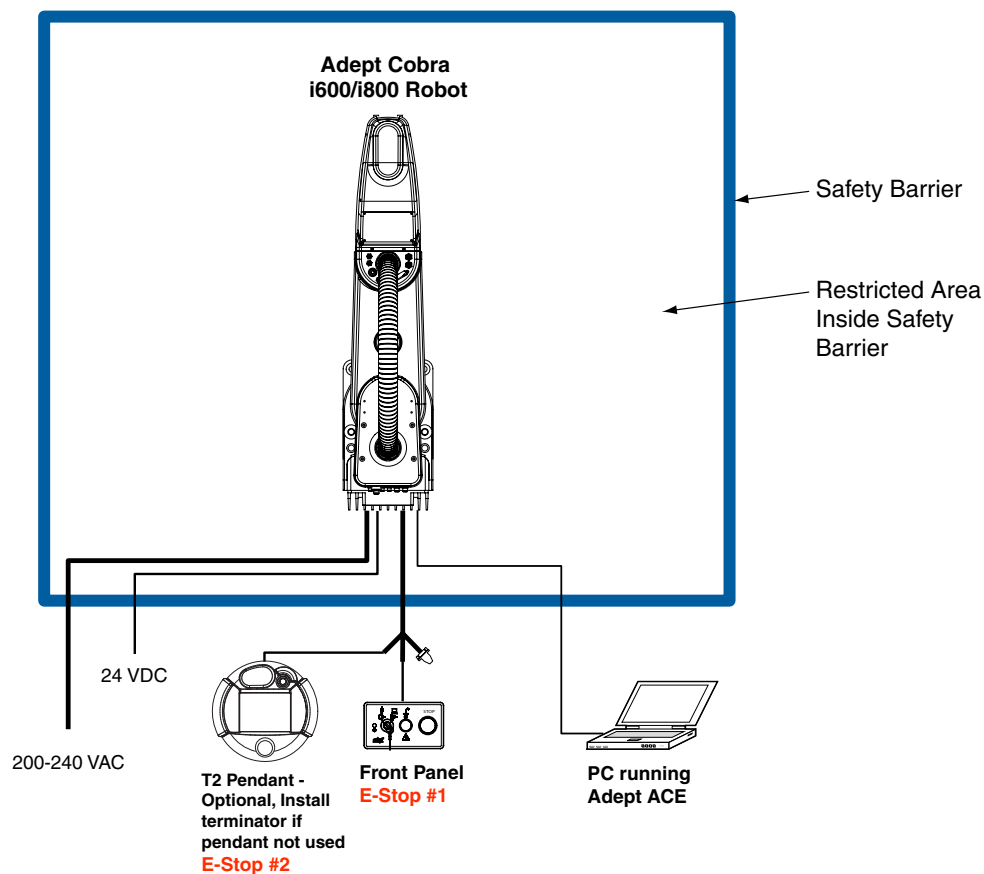


Figure 1. Typical Workcell Layout

3.0 Safety



WARNING: Adept Technology strictly prohibits installation or operation of an Adept robot without adequate safeguards according to applicable local and national standards. See [Figure 1](#) for a simple workcell layout.

You must read Chapter 2 in the [Adept Cobra i600/i800 Robot User's Guide](#) for information on topics related to safe operation of your robot system.

Refer to **Connecting Customer-Supplied Safety and Power Control Equipment** in Chapter 6 of the [Adept Cobra i600/i800 Robot User's Guide](#). This section provides details on connecting a user-designed E-Stop system to the XUSR connector on the robot.

4.0 Unpacking

Remove the top of the robot crate. Do not remove the bolts that attach the robot to the pallet. Inspect your equipment against the purchase order and verify that all items are present and that the shipment is correct and free of visible damage. If there are any problems, contact Adept immediately.

When you are ready to mount the robot, remove the shipping bolts from the pallet, and lift the robot by the eyebolt on the top of the inner link. See the following figure.

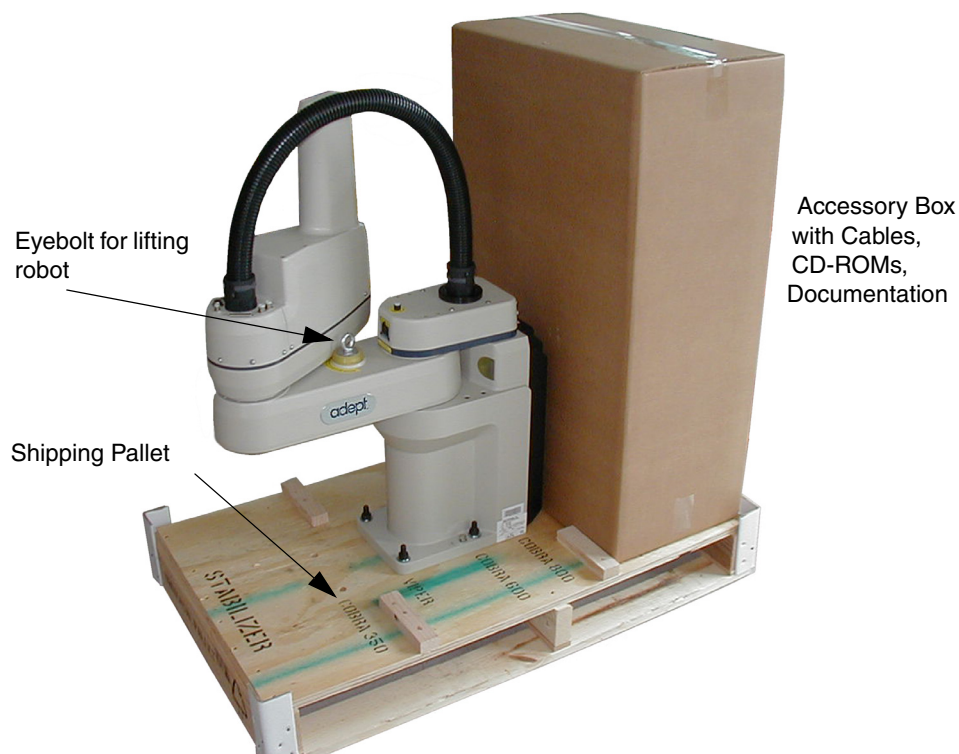


Figure 2. Cobra i600 Robot on Pallet

5.0 Mounting the Robot

Mount the robot on a rigid surface that will prevent vibration and flexing during robot operation. Adept recommends a 25 mm (1 in.) thick steel plate, mounted to a rigid steel tube frame. See the following figure for the mounting hole dimensions.

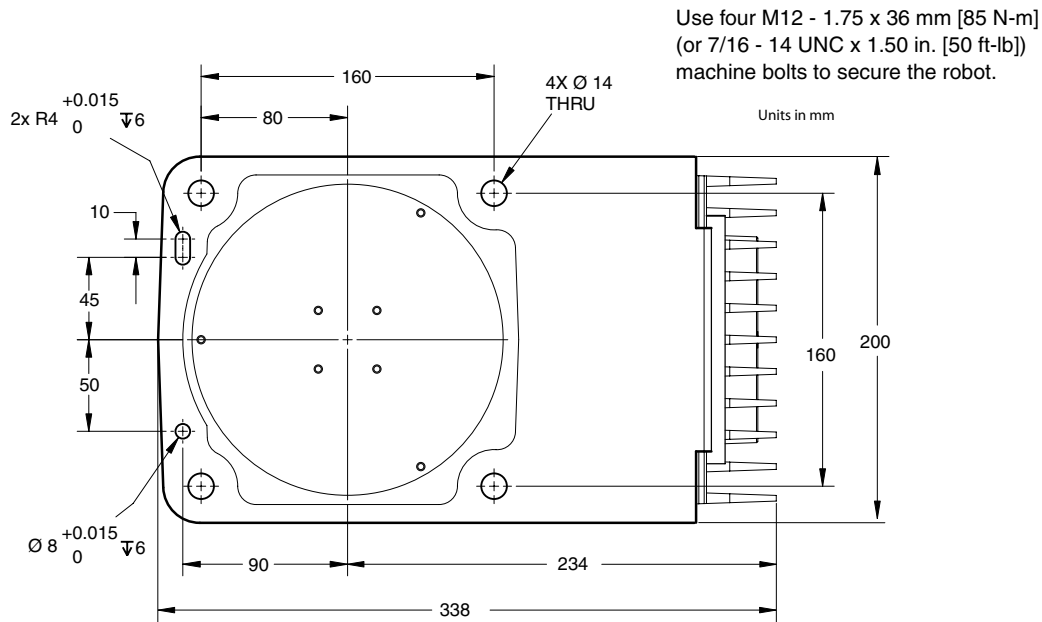


Figure 3. Robot Mounting Hole Dimensions

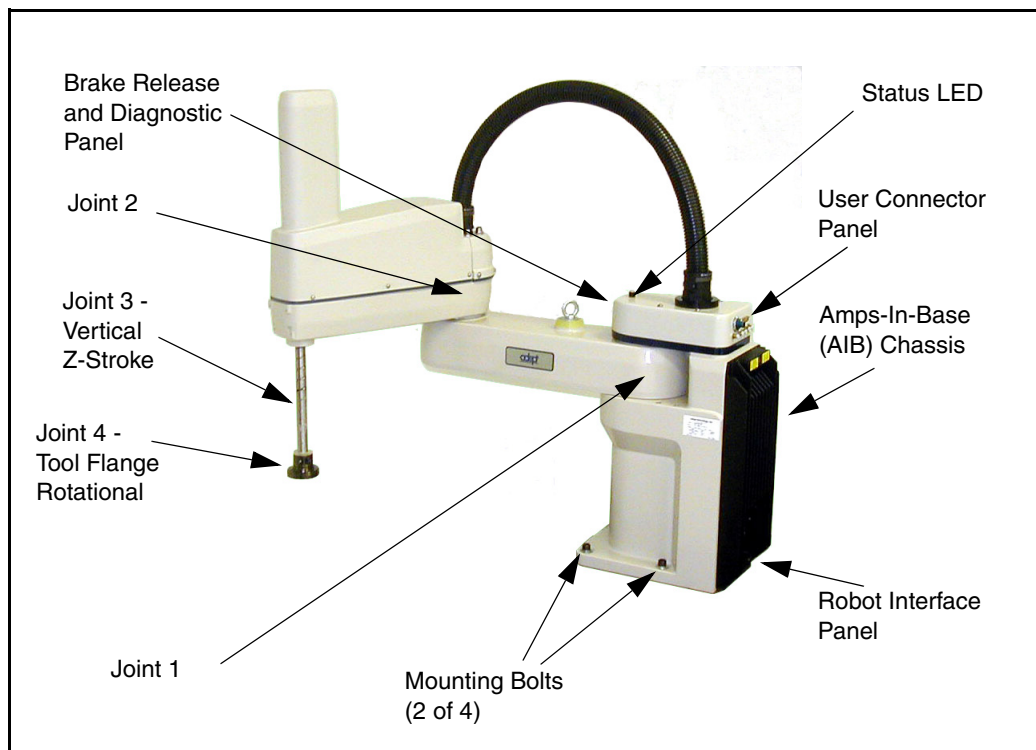


Figure 4. Cobra i800 Components

6.0 System Cable Connections

Open the Accessory Box and locate the AIB XPANEL cable, and RS-232 null modem serial cable. Connect the system cables and peripherals as shown in **Figure 5**. Refer to Chapter 4 in the *Adept Cobra i600/i800 Robot User's Guide* for AC power specifications and AC wiring diagrams.

Parts used in System Cable Connections.

Part	Cable and Parts List	Part #	Part of:	Notes
A	AIB XPANEL Cable	04715-000	04081-000	standard, iCobra
B	XUSR Jumper Plug	04736-000	04081-000	standard, iCobra
C	Front Panel	30356-10358	90356-10358	standard, iCobra
D	Front Panel Cable	10356-10500	90356-10358	standard, iCobra
E	XMCP Jumper Plug	04737-000	04081-000	standard, iCobra
F	T1/T2 Bypass Plug	05004-000	04965-203/ 04965-210	T2 option - 3 m/10 m
G	T1/T2 Adapter Cable	05002-000		
H	T2 (optional)	05215-103/ 05215-110		
J	AC Power Cable	04118-000	90565-010	user-supplied
K	24 VDC Power Cable	04120-000	90565-010	user-supplied
L	24 VDC, 6 A Power Supply	04536-000	90565-010	user-supplied
M	RS-232 Null Modem Serial Cable	04116-001	90565-000	standard, iCobra

Steps in Cable Connections

Installation Procedure		
Step #	Step Description	Part(s)
1	Connect AIB XPANEL cable to XPANEL on Robot Interface Panel.	A
2	Verify XUSR jumper plug is installed on XUSR connector.	B
3	Connect Front Panel cable to Front Panel and XFP connector.	C, D
4	If no T2, install XMCP jumper or T1/T2 bypass plug. Skip to 5.	E, F
4a	If you have T2, connect T1/T2 adapter cable to XMCP connector.	G, H
5	Connect user-supplied ground. See User's Guide for locations.	-
6	Connect 200-240 VAC to AC Input on Interface Panel; secure with clamp.	J
7	Connect 24 VDC to DC Input on Interface Panel.	K, L
8	Connect null modem serial cable to Interface Panel and serial port on PC.	M

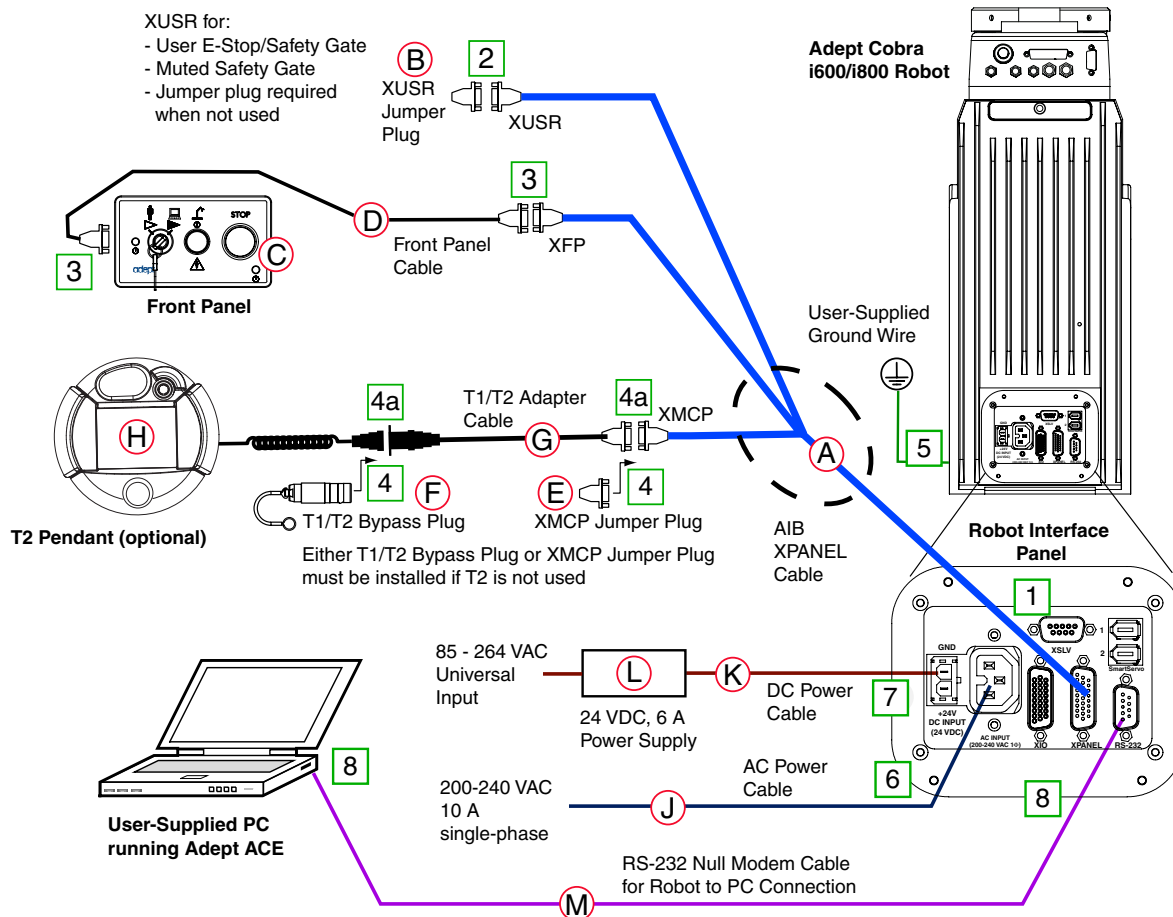


Figure 5. Cobra i600/i800 Robot System Cable Diagram

7.0 Installing Adept ACE Software

You install Adept ACE software from the Adept Software CD-ROM. You will need Microsoft .NET Framework. The Adept ACE Setup Wizard scans your PC for .NET, and installs it automatically, if needed.

1. Insert the CD-ROM into the CD-ROM drive of your PC. If Autoplay is enabled, the Adept Software CD-ROM menu is displayed - see **Figure 6**. If Autoplay is disabled, you will need to manually start the CD-ROM.

NOTE: The online document that describes the installation process opens in the background when you select one of software installation steps below.

2. From the Adept Software CD-ROM menu, click **Install the Adept ACE Software**.

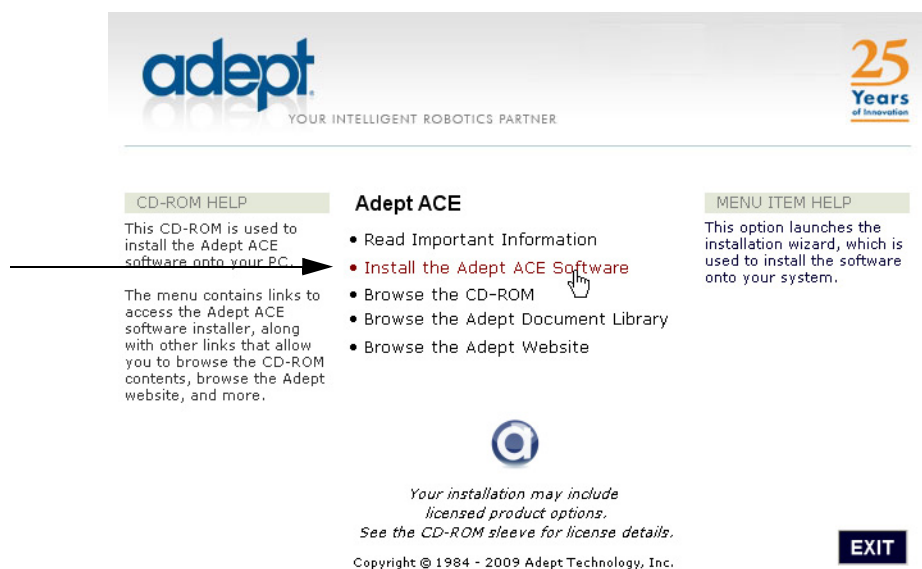


Figure 6. Adept ACE CD-ROM Startup Menu

3. The Adept ACE Setup wizard opens - see the following figure. Follow the instructions as you step through the installation process.



Figure 7. Setup Welcome Screen

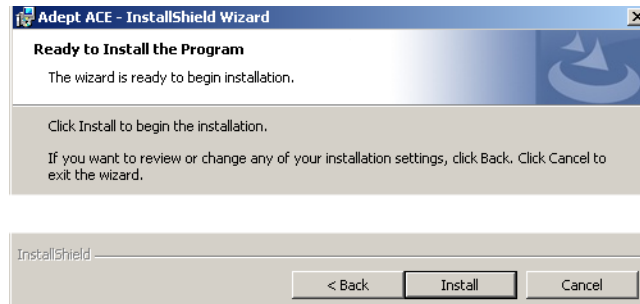


Figure 8. Ready-to-Install Screen

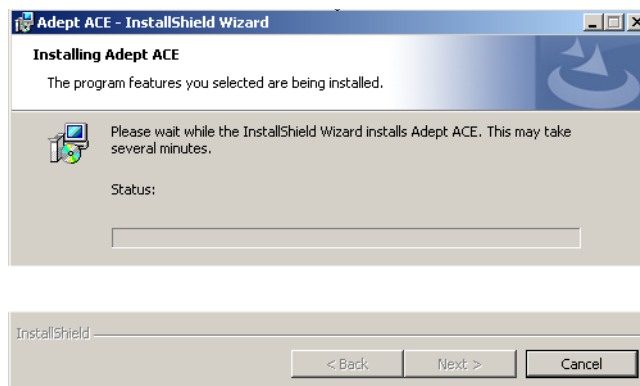


Figure 9. Install Screen

4. When the install is complete, click **Finish**.

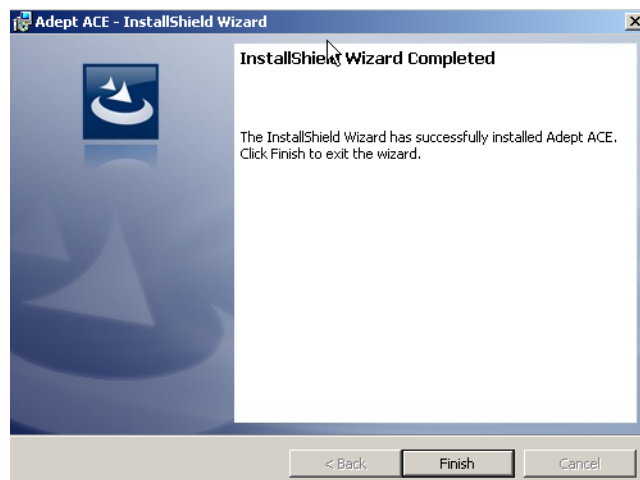


Figure 10. Installation Completed

5. After closing the Adept ACE Setup wizard, click **Exit** on the CD-ROM menu and proceed to the Start-up Procedure.

NOTE: You will have to restart the PC after installing Adept ACE.

8.0 Start-up Procedure

Turn On Power and Start Adept ACE

1. Manually move the robot joints away from the folded shipping position, similar to the position shown on the cover of this Guide.
2. Turn on 200/240 VAC power.



DANGER: Make sure personnel are skilled and instructed - refer to Chapter 2 in the *Adept Cobra i600/i800 Robot User's Guide*.

3. Turn on 24 VDC power to the robot. The Diagnostic Panel displays **OK**. The Robot Status LED will be off. On older iCobras, it blinks green slowly.
4. Verify that the Auto/Manual switch on the Front Panel is set to **Auto Mode**. (See [Figure 16 on page 12.](#))
5. Turn on the user-supplied PC and start Adept ACE:
 - Double-click the Adept ACE icon on your Windows desktop
 - or
 - From the Windows Start menu bar, select
Start > Programs > Adept Technology > Adept ACE > Adept ACE.
6. Connect a serial (COM) cable from the PC to the robot interface panel.
7. On the Adept ACE Startup menu:
 - Check **Create New Workspace for iCobra at:** to make the connection to the Adept robot.
 - Select the COM port to match the COM port being used on your PC. See the following figure.

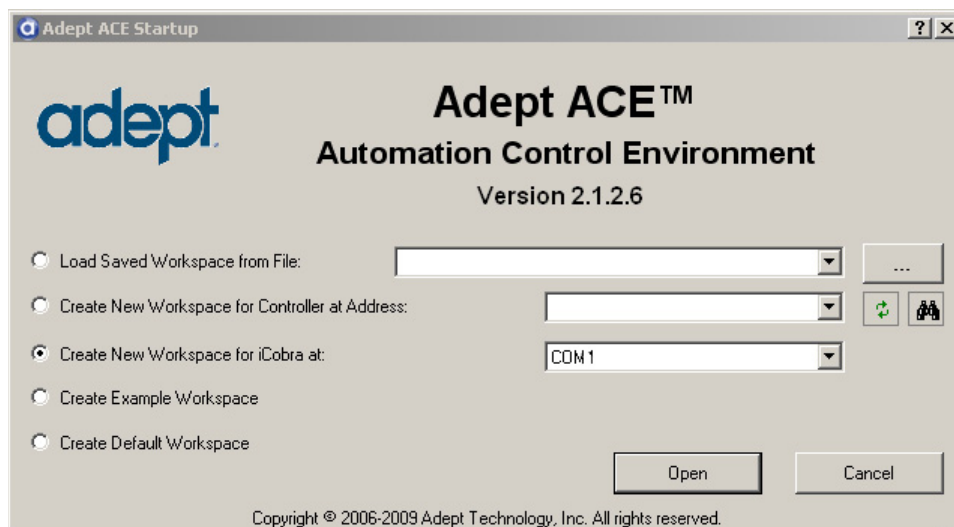


Figure 11. Adept ACE Startup Menu

8. Click **Open**.
You will see the message “Working . . Please wait”.

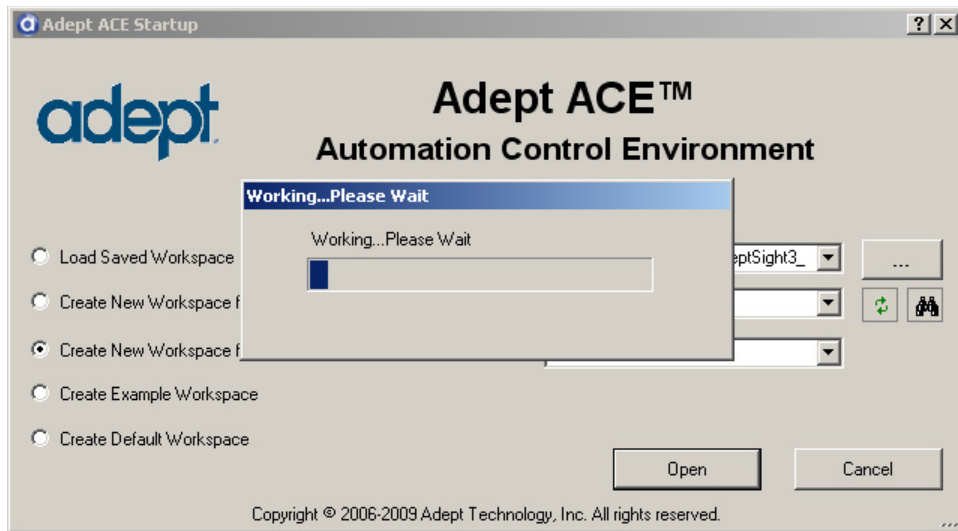


Figure 12. Connecting to the iCobra

Use the Diagnostics Wizard

1. Double-click the iCobra object in the Folder pane of the Workspace Explorer.
2. In the object editor, select **Configure > Diagnostics Wizard**. See the following figures.

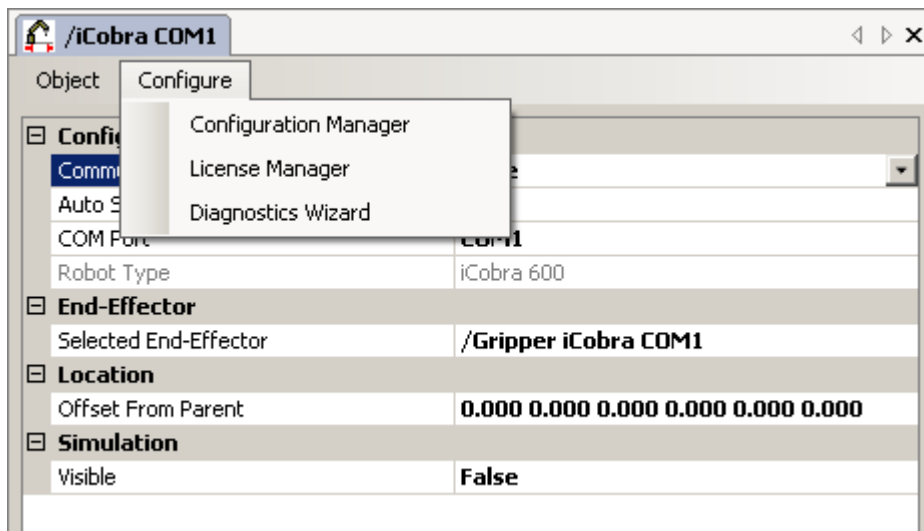


Figure 13. Selecting the Diagnostics Wizard

The Welcome window opens:

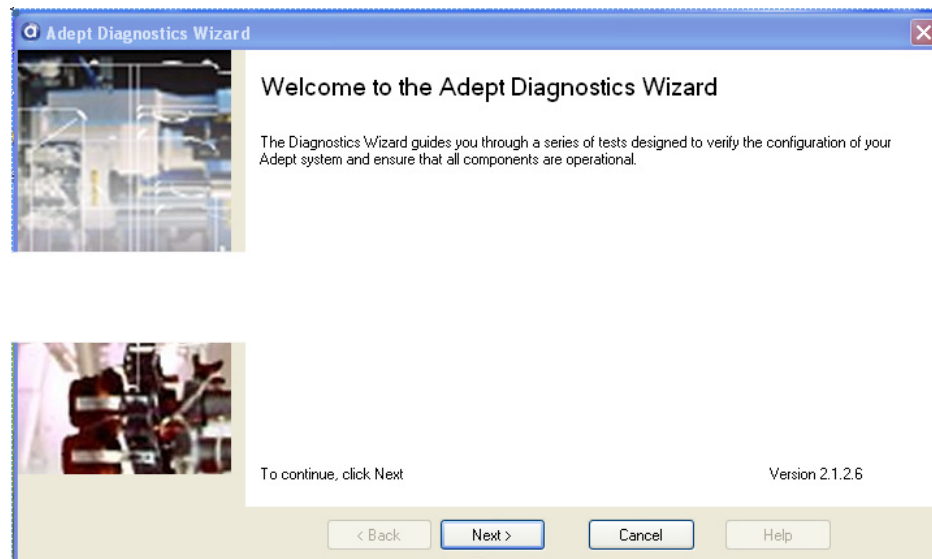


Figure 13-1. Diagnostics Wizard Welcome Screen

3. Click Next.

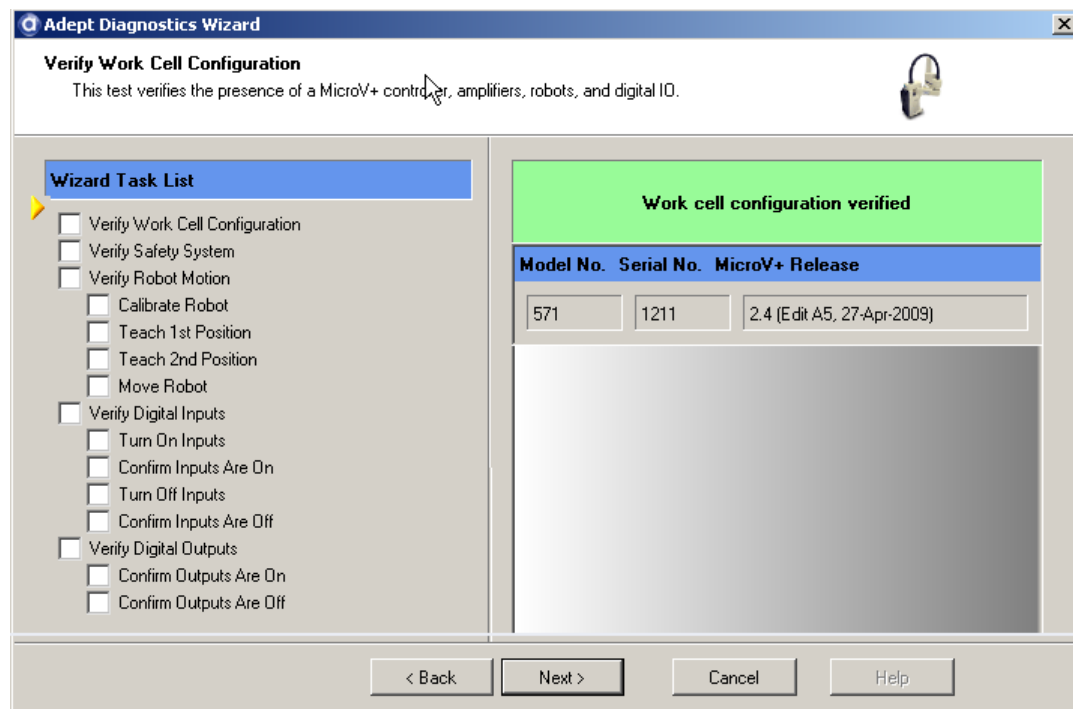


Figure 14. Adept Diagnostics Wizard

4. The Wizard verifies the workcell configuration, to confirm all equipment is installed correctly. Click **Next** to continue to the Enable Power sequence.

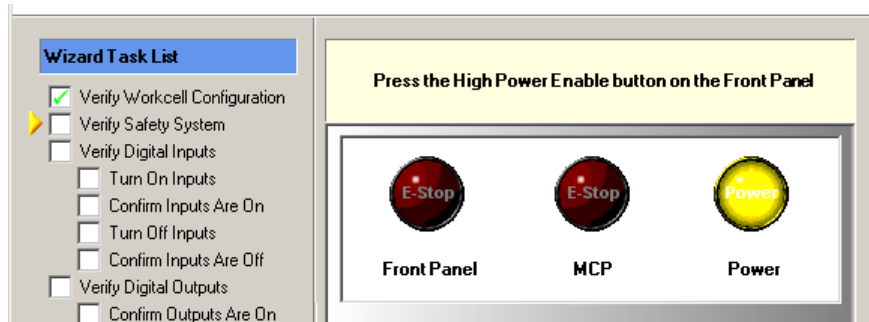


Figure 15. Diagnostics Enable Power Sequence

5. The Wizard then tells you to press the blinking **High Power** button on the Front Panel. See [Figure 16](#).

This step turns on high power to the robot motors.

- The Robot Status LED glows solid amber or, on older iCobras, blinks green rapidly.
- The code on the Diagnostic Panel displays **ON**.

NOTE: The Front Panel button must be pressed within 10 seconds. Press and quickly release the button.

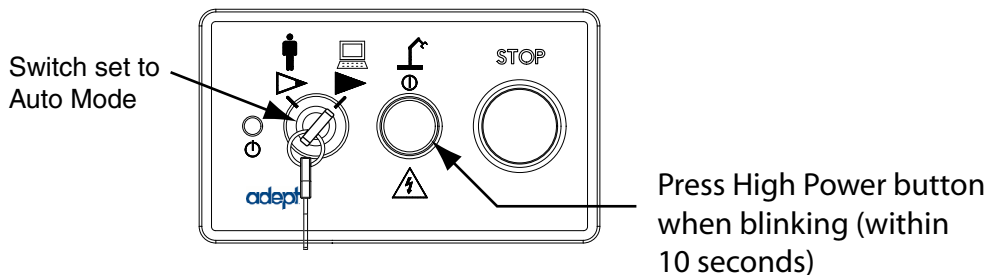


Figure 16. High Power Button on Front Panel

6. Follow the directions in the Diagnostics Wizard to step through these items:
 - Calibrate the robot
 - Verify robot motions
 - Verify digital input and outputs, if you have the XIO Terminal Block product installed.
7. When you finish the Wizard, the robot is ready to use. See the following figure. Go to [Section 9.0](#) for details on running a sample application. Go to [Section 10.0](#) to find additional information on using the robot and installing optional equipment.

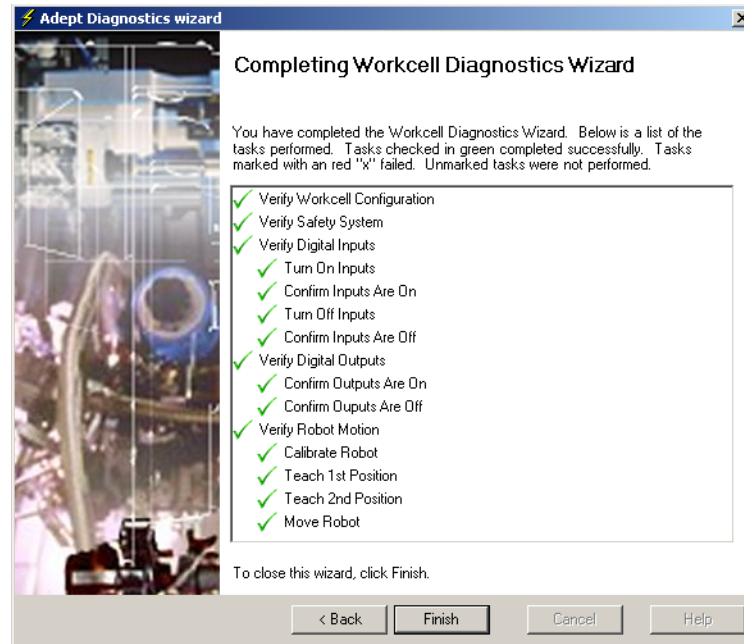


Figure 17. Diagnostics Wizard Complete

9.0 Using the Sample Applications

You can run the sample application included with Adept ACE to learn how to use your system. To load and run the application:

1. Start Adept ACE.
2. Select **Tools > Application Samples > MicroV+ arm- or fixed-mount camera** to start the application sample for the iCobra.
Use of the application samples is covered in the AdeptSight Online Help.

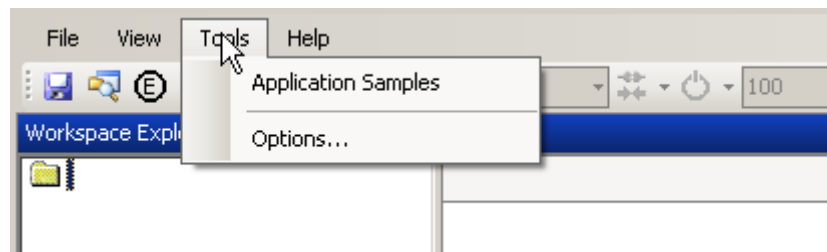


Figure 18. Selecting Application Samples from the Tools Menu

The following selections will be displayed:

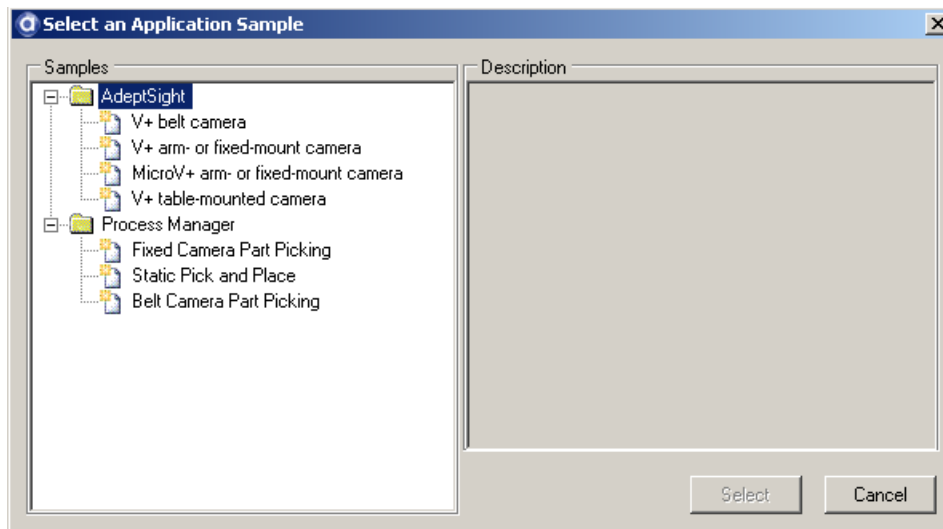


Figure 19. Application Samples Menu

10.0 Finding Additional Information

Installing Optional Equipment

For details on installing optional equipment, see the following topics in **Chapter 5** of the *Adept Cobra i600/i800 Robot User's Guide*:

- Installing end-effectors
- Connecting user air and electrical lines to User Connection Panel
- Mounting external equipment on the robot
- Mounting the robot solenoid option kit
- Installing adjustable hardstops

NOTE: For robot dimensions and specifications, see **Chapter 8 - Technical Specifications** in the *Adept Cobra i600/i800 Robot User's Guide*.

System Operation

For details on system operation, see the following topics in **Chapter 6** of the *Adept Cobra i600/i800 Robot User's Guide*:

- Robot Status LED Indicator
- Status panel fault codes
- Brake Release button (located above diagnostic panel). To move Joint 3 manually, press the Brake Release button.
- Connecting digital I/O on the XIO connector at the robot interface panel
- Connecting a user-designed E-Stop System

Using the Configuration Manager Utility

The Configuration Manager Utility allows you to configure these functions on a Cobra i600/i800 Robot: joint limits, hand open/close signals, and workcell obstacles. The utility is accessed from the Configure menu in the iCobra object editor in Adept ACE.

NOTE: The Configuration Manager is covered in detail in the Adept ACE Online Help.

1. Double-click the iCobra object in the Folder pane of the Workspace Explorer.
2. In the object editor, select **Configure > Configuration Manager**. See **Figure 13**.

The Configuration Manager window opens:

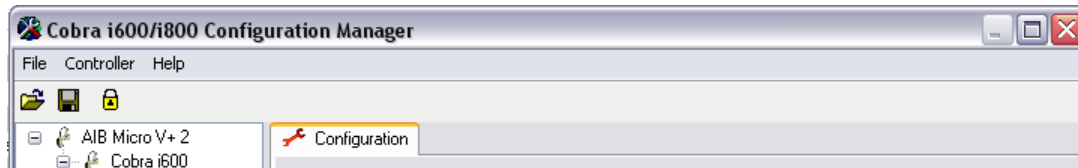


Figure 20. Configuration Manager Utility

How Can I Get Help?

Refer to the *How to Get Help Resource Guide* (Adept P/N 00961-00700) for details on getting assistance with your Adept software and hardware. Additionally, you can access information sources on Adept's corporate web site:

<http://www.adept.com>

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